

## ABSTRACT

A polymerization reactor for exothermic liquid phase reactions comprises a reaction zone which is divided into a plurality of channels by thermally conductive heat transfer fins which are conductively mounted on one or more heat pipes for the removal of heat of reaction from reactants and reaction products flowing between the heat transfer fins. The reactor of the invention is capable of maintaining essentially isothermal conditions without the use of complicated and maintenance intensive agitators. The reactor is particularly useful when viscosity of the reactants and/or reaction products is high, when the reaction conducted has a fast reaction rate and when consistent polymer properties are desired.